

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-19 (canceled)

Claim 20 (currently amended): An isolated antibody or antibody fragment which specifically binds to a protein of the TGF- β family wherein said antibody or antibody fragment binds to a part of the protein encoded by a nucleotide sequence selected from the following group:

- (a) the nucleotide sequence as shown in SEQ ID NO:1,
- (b) a nucleotide sequence which is degenerate to the nucleotide sequence of (a) as a result of the degeneracy of the genetic code, and
- (c) fragments of (a) or (b) which encode a protein which cartilage or bone inducing activities of a mature protein encoded by the nucleotide sequence of SEQ ID NO:1.

Claim 21 (previously presented): The antibody according to claim 20, wherein said antibody is a monoclonal antibody.

Claim 22 (previously presented): An antibody or antibody fragment according to claim 20, which specifically binds to a protein of the TGF- β family wherein the

protein to which the antibody or antibody fragment binds consists of an amino acid sequence according to SEQ ID NO:3.

Claim 23 (previously presented): The antibody according to claim 35, wherein said antibody is a monoclonal antibody.

Claim 24 (withdrawn): An antibody or antibody fragment which specifically binds a protein of the TGF- β family, wherein said protein is encoded by a DNA comprising a nucleotide sequence selected from the following group:

- (a) the nucleotide sequence as shown in SEQ ID NO:2,
- (b) a nucleotide sequence which is degenerate as a result of the genetic code to the DNA of (a),
- (c) a nucleotide sequence which hybridizes under the following stringent hybridization conditions to the DNA in (a), or (b): hybridization at a salt concentration of 4X SSC at 62°-66°C followed by a one-hour wash with 0.1X SSC and 0.1% SDS at 62°-66°C, and
- (d) fragments of (a), (b) or (c) which encode a protein which has essentially the same cartilage or bone inducing activity as a mature protein encoded by the nucleotide sequence of SEQ ID NO:2.

Claim 25 (withdrawn): An antibody or antibody fragment according to claim 24, wherein said protein comprises the amino acid sequence according to SEQ ID NO:4.

Claim 26 (withdrawn): The antibody according to claim 25, wherein said antibody is a monoclonal antibody.

Claim 27 (withdrawn): The antibody according to claim 24, wherein said antibody is a monoclonal antibody.

Claim 28: (withdrawn) A method for binding a protein of the TGF- β family, comprising incubating an antibody or antibody fragment according to claim 20 with a sample suspected of containing a protein of the TGF- β family, wherein a complex is formed by said antibody or antibody fragment binding said protein.

Claim 29 (withdrawn): A method for detecting a protein of the TGF- β family, comprising

incubating an antibody or antibody fragment which specifically binds to said protein of the TGF- β family with a sample suspected of containing said protein, and

detecting any antibody/protein complex formed as an indication of the presence of said protein,

wherein said protein is encoded by a DNA comprising a nucleotide sequence selected from the following group:

(a) the nucleotide sequence as shown in SEQ ID NO:2,

(b) a nucleotide sequence which is degenerate as a result of the genetic code to the DNA of (a),

(c) a nucleotide sequence which hybridizes under the following stringent hybridization conditions to the DNA in (a), or (b): hybridization at a salt concentration of 4X SSC at 62°-66°C followed by a one-hour wash with 0.1X SSC and 0.1% SDS at 62°-66°C, and

(d) fragments of (a), (b) or (c) which encode a protein which has essentially the same cartilage or bone inducing activity as a mature protein encoded by the nucleotide sequence of SEQ ID NO:2.

Claim 30 (currently amended): A kit for detecting a protein of the TGF- β family, comprising
an antibody or antibody fragment which specifically binds to a protein of the TGF- β family, and
a reaction buffer,
wherein said antibody or antibody fragment binds to a part of the protein which is encoded by a nucleotide sequence selected from the following group:
(a) the nucleotide sequence as shown in SEQ ID NO:1,
(b) a nucleotide sequence which is degenerate ~~as a result of the genetic code to~~ the nucleotide sequence of (a) as a result of the degeneracy of the genetic code,
and

(c) fragments of (a) or (b) which encode a protein which cartilage or bone inducing activities of a mature protein encoded by the nucleotide sequence of SEQ ID NO:1.

Claim 31 (withdrawn): A kit for detecting a protein of the TGF- β family, comprising

an antibody or antibody fragment which specifically binds to a protein of the TGF- β family, and

a reaction buffer,

wherein said protein is encoded by a DNA comprising a nucleotide sequence selected from the following group:

(a) the nucleotide sequence as shown in SEQ ID NO:2,

(b) a nucleotide sequence which is degenerate as a result of the genetic code to the DNA of (a),

(c) a nucleotide sequence which hybridizes under the following stringent hybridization conditions to the DNA in (a), or (b): hybridization at a salt concentration of 4X SSC at 62°-66°C followed by a one-hour wash with 0.1X SSC and 0.1% SDS at 62°-66°C, and

(d) fragments of (a), (b) or (c) which encode a protein which has essentially the same cartilage or bone inducing activity as a mature protein encoded by the nucleotide sequence of SEQ ID NO:2.

Claim 32: (withdrawn) The method according to claim 28, further comprising detecting said protein or said complex.

Claim 33 (currently amended): An isolated antibody or antibody fragment which specifically binds to a protein of the TGF- β family wherein said antibody or antibody fragment binds to a fragment of SEQ ID NO:3, wherein said fragment of SEQ ID NO:3 comprises the amino acids shown in SEQ ID NO:22.

Claim 34 (currently amended) An isolated antibody or antibody fragment which specifically binds to a protein of the TGF- β family wherein said antibody or antibody fragment binds to a part of the protein encoded by a nucleotide sequence selected from the following group:

- (a) the nucleotide sequence as shown in SEQ ID NO:1,
- (b) a nucleotide sequence which is degenerate ~~as a result of the genetic code~~ to the nucleotide sequence of (a) as a result of the degeneracy of the genetic code, and
- (c) fragments of (a) or (b) which encode a protein which retains the cartilage or bone inducing activities of the protein encoded by the nucleotide sequence of SEQ ID NO:1.

Claim 35 (currently amended) An isolated antibody or antibody fragment which specifically binds to a protein of the TGF- β family, wherein said protein is selected from the following group:

(a) a protein encoded by DNA consisting of the nucleotide sequence as shown in SEQ ID NO:1,

(b) a protein encoded by a DNA consisting of a fragment_of the nucleotide sequence as shown in SEQ ID NO:1, wherein said fragment of SEQ ID NO:1 comprises the nucleotide sequence as shown in SEQ ID NO: 6,

(c) a protein encoded by DNA consisting of a nucleotide sequence which is degenerate ~~as a result of the genetic code~~ to the nucleotide sequence of (a) as a result of the degeneracy of the genetic code or (b),

(d) a protein consisting of the amino acid sequence shown in SEQ ID NO:3, and

(e) a protein consisting of a fragment of the amino acid sequence shown in SEQ ID NO:3, wherein said fragment of SEQ ID NO:3_comprises the amino acid sequence shown in SEQ ID NO:22.